



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

The nomenclature of the genus *Usnea*

R. HEBER HOWE, Jr.

(WITH PLATES 9-14)

In my first paper on the genus *Usnea* (Bull. Torrey Club 36: 309-327. *pl.* 21-23. 1909) I made no attempt to solve the nomenclatural questions presented in this genus. In my second paper (Bull. Torrey Club 37: 1-18. *pl.* 1-7. 1910) I located the types of the species concerned and attempted to use determinations made of the Dillenian types by Crombie to elucidate the problem of the Linnean species. In a still later paper (Bull. Torrey Club 37: 605-609. 1910) I made further notes based on Dr. Wainio's report on the Linnean types. These three papers presented the nomenclature of the Linnean species as follows, as compared with Tuckerman's and Dr. Zahlbruckner's treatments.

Tuckerman, based on E. Fries:

Usnea barbata (L.) Fr.

barbata a. *florida* Fr.

barbata a. *florida* **hirta* Fr.

barbata a. *florida* ***rubiginea* Michx.

barbata b. *ceratina* Schaer.

barbata c. *dasyypoga* Fr.

barbata d. *plicata* Fr.

barbata e. *articulata* Ach.

Author's 1909 paper:

Usnea barbata (L.) Fr.

barbata florida (L.) Fr.

Contingent phases: *Usnea barbata hirta*

barbata rubiginea

barbata florida f. *strigosa* Ach.

barbata ceratina (Ach.) Schaer.

barbata dasyypoga Fr.

barbata plicata Fr.

barbata articulata Ach.

Author's 1910 paper, based on Crombie:

Usnea florida (L.) Web.

Cont. phase: *Lichen hirtus* L.

Usnea florida Michx.

Usnea plicata (L.) Web. = *Usnea ceratina* Ach.

plicata var. *barbata* (L.) R. H. Howe = *Usnea dasypoga* (Ach.) Nyl.

articulata (L.) Hoffm.

Author's 1910 paper, based on Dr. Wainio:

Usnea florida (L.) Web.

Syn. *Lichen hirtus* L.

plicata (L.) Web. = *Usnea ceratina* Ach.

barbata (L.) Web. or *U. plicata* var. *barbata* (L.) R. H.

Howe = *Usnea dasypoga* (Ach.) Nyl.

articulata (L.) Hoffm.

Dr. Zahlbruckner; Engler & Prantl, Nat. Pflanzenfam.:

Usnea florida (L.) Hoffm.

ceratina Ach.

dasypoga (Ach.) Nyl.

dasypoga var. *plicata* (Hoffm.) Hue

articulata (L.) Hoffm.

The only correction made by me,* which has had general adoption, is the acceptance of Weber as the first author responsible for the combination *Usnea florida* as a binomial.

During the year 1912, through the kindness of Dr. S. H. Vines and Dr. B. Daydon Jackson, I had the opportunity to study both the Dillenian and Linnean herbariums and also authentic Fries and Acharian material. I here present photographs of the types and trust that the problem may now be considered settled beyond all doubt.

Series: *Mesinae*

Chondroid axis one third the diameter of thalline filament.

Usnea florida (L.) Web. I find two type specimens preserved in the Linnean herbarium in the apartments of the Linnean Society, Burlington House, London. They are mounted on one sheet labeled *Lichen floridus* in Linné's handwriting, with the Flora Suecica (1745) number 991 written below the specimens. These are typical (as long understood) and are well described in the original description.

* Brought to my notice by Dr. J. H. Barnhart.

Usnea florida f. *hirta* (L.) Ach. I find three types of this sorediate and generally sterile form of *U. florida* preserved in the Linnean herbarium. One of these bears the Flora Suecica number of *Lichen plicatus*; the other two are atypical (as now understood). The original description is diagnostic.

Usnea plicata (L.) Web. I find no true type specimen in the Linnean herbarium. A specimen, probably only a portion of the original plant, answering poorly to Linné's description, is in his herbarium labeled *Lichen hirtus*, but with number 984 (the number of *L. plicatus* in Flora Suecica) written below the specimen. Thus with no definite type, I have endeavored to interpret the Linnean description, and the Dillenian plate (and his type) to which Linné refers and on which Linné based his *Lichen plicatus*. The Dillenian plate and specimen answer perfectly to the Linnean description and must be considered the only sound evidence available, by means of which the status of *Lichen plicatus* L. can be settled. The Acharian *plicata** represents the same plant and is not the plant often referred to as var. *plicata* (Hoffm.) Hue. There seems no doubt whatever that though *plicatus* L. and *U. ceratina* Ach. are synonymous (as commonly understood of late in this country and in Europe), we must not consider them identical, no matter with what plants we have since associated the names. The error has arisen through a misunderstanding of *ceratina* of Schaerer and *ceratina* of Acharius, the latter author having priority for the name. The Dillenian type was not determined by Acharius *ceratina* as it was by Schaerer, and as we find Crombie labeled it, and as the Acharian synonymy and material here figured goes to show.† Acharius's *plicata* is the same plant that Linné called *Lichen plicatus*; in other words the *coarse, pendulous* (partially papilloso- sorediate but *not* "asperrimo") species of the middle Atlantic States from where the American Dillenian type came (Pennsylvania), and a type locality cited by Linné as directly taken from Dillenius. I cannot see that we are in need of any further data. *Usnea plicata* Hoffm. is therefore also preoccupied, and in Hoffman's own herbarium, moreover, is represented, Dr. Wainio tells us, by a plant referable to *florida* of Fries.

* Based on Linné and Dillenius, see Lich. Meth. 310. 1803.

† See remarkable plate by Westring, Sven. Lafv. Faerghist 69. 1805, showing complete structure.

Usnea ceratina Ach. Through the kindness of Dr. Elfving I am reproducing a photograph of the type of this species. It does not occur in temperate North America and appears to be as Acharius made it a *prostrate* and entirely *asperate* species, perhaps as Dr. Jatta calls it synonymous with *U. coralloides*, *aspera* Eschw.,* and certainly *totally* unlike the papillate or partially sorediate and *pendulous* species recognized as *ceratina* (No. 95 Decades No. Amer. Lich., Cummings) or as the especially luxuriant specimens *U. californica* Herre, which may deserve subspecific rank.

Usnea barbata (L.) Web. In my former paper I adopted the name *barbatus* L. as synonymous with *dasyypoga* Ach. and pointed out that I believed it to be the proper name for this variety, but my argument was based on Crombie's partially inaccurate statement in regard to the Dillenian type, and also on account of the ("Europae & Americae *septentrionalis*") type localities. My reasons heretofore stated were that the Dillenian type was said by Crombie to be *Usnea dasyypoga* (Ach.), and also the ruling of early post Linnean authors Westring, Hoffmann, and Fries (see author's Class. *Usneaceae* 14. 1912). An examination of the Dillenian type, a figure of which is here published, shows it to be composite, *Usnea articulata* and *Usnea dasyypoga* mounted on the same sheet. In an examination of the plate of these plants a few semi-inflated articulations (explaining Linné's "subarticulatus") are to be found,† as appears to have been the case in the plant, and Dillenius seems to have ignored the other specimen as he figures it in another and entirely typical plate illustrating his *Usnea capillacea* et *nodosa*, = *Lichen articulatus* L. It would seem therefore so far as Dillenius is concerned that his type is composite, though not his plate, and by his plate he himself contradicts the duplicity of his type. In the Linnean herbarium, however, we find no type of *articulata*, but a single and perfect specimen of *barbata* which answers exactly to our modern conception of *articulata*. According to Dr. B. Daydon Jackson, however, Linné must have based his *Lichen barbatus* entirely on Dillenius, for he did not have a specimen of it in his own herbarium until 1767 (Index Linn. Herb., Supp. Proc. Soc. 96. 1912). One is therefore left with

* A caespitose, erect, not prostrate species.

† A condition not infrequently met.

two alternatives, the first plainly defying Linné's intention, i. e., to use *articulata* as a synonym of *barbata*, turning to Acharius's name for the present plant, either exactly as he proposed it or as combined by Nylander. The other, to accept Linné's descriptions of both *Lichen barbatus* and *L. articulatus*, which are diagnostic and (except for the composite type conditions referred to) as Dillenius figured and understood them, for the two descriptions leave no doubt that Linné intended to indicate two different plants. This latter procedure is it seems clearly the proper one, soundly based and entirely satisfactory.

Series: *Leptinae*

Chondroid axis one fifth diameter of thalline filament (internodal section).

Usnea articulata (L.) Hoffm. I find in the Linnean herbarium one sheet labeled 72 *barbatus* by Linné, which represents the typical plant generally recognized as *articulata* (L.) Hoffm. As already shown Linné was describing another species, based entirely on Dillenius, when he named *Lichen barbatus*, as this specimen was not acquired until 1767, twenty-two years after he first described it. Linné's description is diagnostic, and his type locality an added argument.

Our North American Linnean species therefore stand as follows:

Usnea florida (L.) Web.

plicata (L.) Web. = *U. ceratina* Schaer. non Ach.

barbata (L.) Web. = *U. plicata* var. *dasyopoga* Ach.

Usnea articulata (L.) Hoffm.

One cannot emend and adopt the Acharian name *implexa* for the plant known as *U. dasyopoga* var. *plicata* (Hoffm.) Hue, a name absolutely untenable as preoccupied by a recognizable plant, as Acharius himself finally made it a synonym of his own *plicata*. Again, as I have said, Hoffmann referred to the same Dillenian plate (*pl. II, f. 1*) as Linné did, and the plant so named in the Hoffmann herbarium is curiously enough *florida* of Fries. One must therefore turn to Schaerer and adopt his variety *stricta**

* Orig. desc. "ramis simplicissimis, stricta" Spicil. 507. 1840; "straminea, subdichotoma, flaccida, pendula, tenera, ramis simplicibus, strictis, efibrillosis." Type loc. "sylv. alpin. Helvetiae." Enum. crit. Lich. Europ. 4. 1850. Latin *strictus* = straight.

as he seems to be the first author to recognize this simple, naked variety of *barbata*,—which plants can be hailed as *Usnea barbata* var. **stricta** (Schaer.) comb. nov., a name that antedates *Usnea barbata* var. *intermedia* Mass., given seemingly to the same plant.* The question now presents itself, shall botanists consider these actual specimens in the light of types. Whether they do or not seems of little importance. The investigation of them has led to an understanding of really what plants Linné named, and this I take it is what we most desire to know if we are ever to place our nomenclature on a sound basis. My view taken in 1910 is therefore unchanged, except in the realization that *Usnea ceratina* Ach. is not synonymous with the plant (Linné's *plicatus*) Crombie, Tuckerman and many other recent authors (based on Schaerer) supposed, but is a distinct and very different species. Dr. Zahlbruckner's work fails to take account at all of the coarse, pendulous plants, i. e., *ceratina* of Schaerer or *plicatus* of Linné, as he cites only *ceratina* of Acharius.

THOREAU MUSEUM OF NATURAL HISTORY
CONCORD, MASSACHUSETTS

EXPLANATION OF PLATES 9-14

PLATE 9

UPPER FIGURE. The Linnean type of *Lichen floridus* in the Linnean herbarium (reduced one half).

LOWER FIGURE. The Acharian specimen of *Lichen comosus* in the Linnean Society herbarium (reduced to two fifths actual size).

PLATE 10

The Dillenian type of *Usnea vulgaris*, etc., incorrectly referred by Crombie to *U. ceratina* Ach. (reduced one half). It also represents Linné's conception of his *L. plicatus*.

PLATE 11

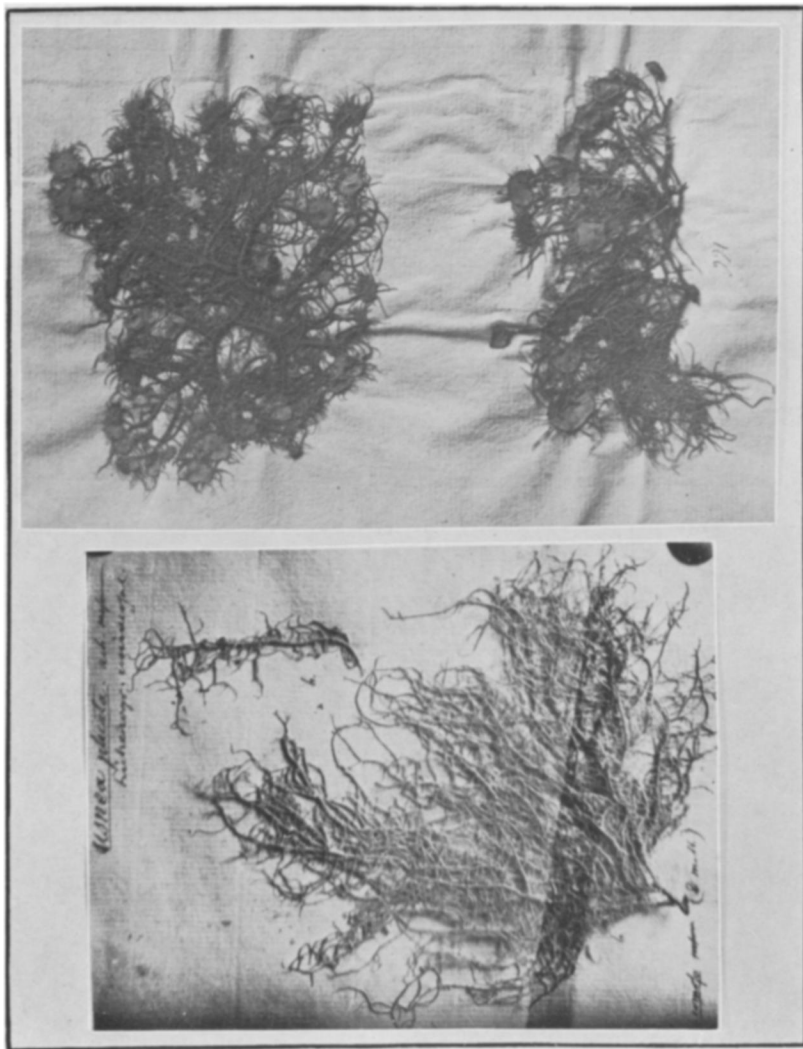
UPPER FIGURE. The specimen in the Linnean herbarium bearing the Flora Suecica number 984 of *Lichen plicatus*; labeled *hirtus*, and representing one of the types of the latter species (slightly reduced).

LOWER FIGURE. The Acharian type of *Usnea ceratina* (slightly reduced).

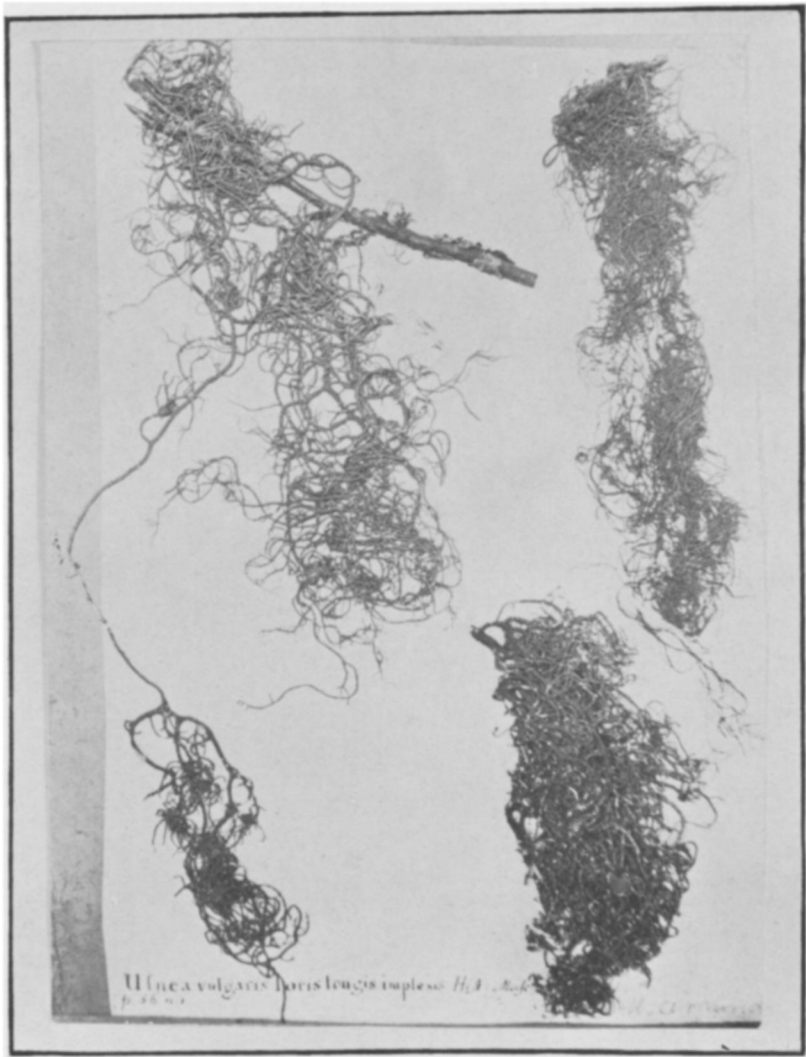
PLATE 12

The Acharian specimen of *Usnea plicata* in the herbarium of the Linnean Society in London (reduced one half).

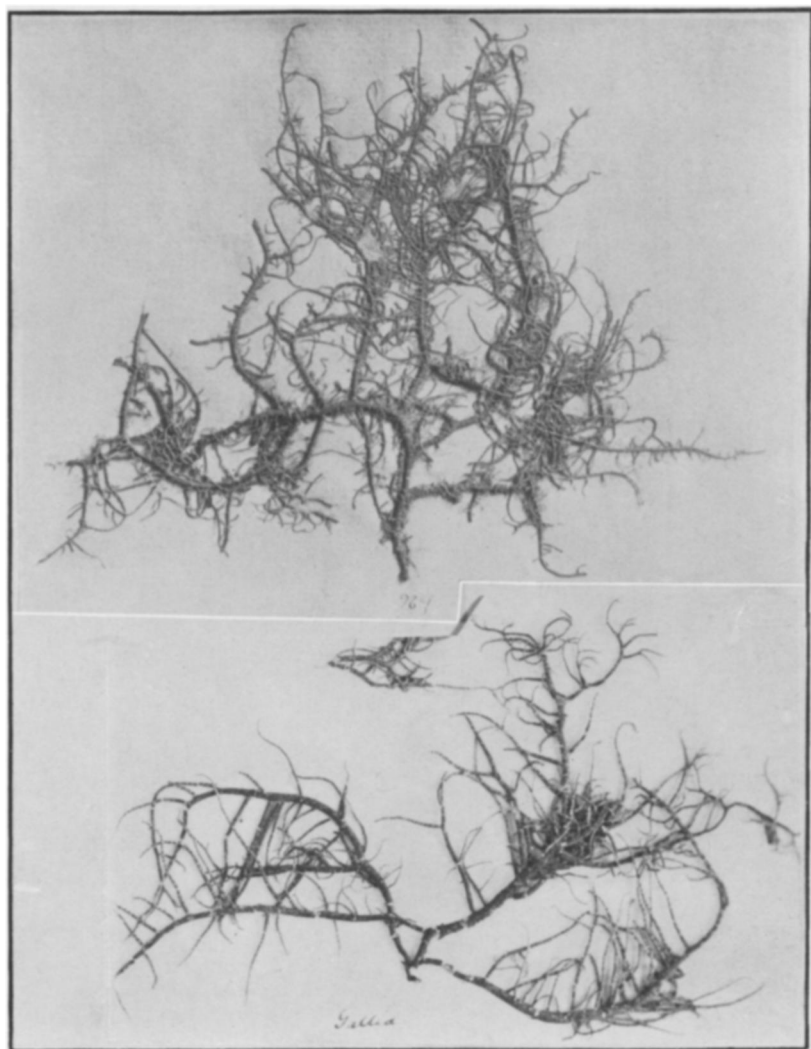
* See *U. barbata*, f. *Schraderi* Dalla Torre & Sarn. Flecht. Tirol., etc. 4. 1902.



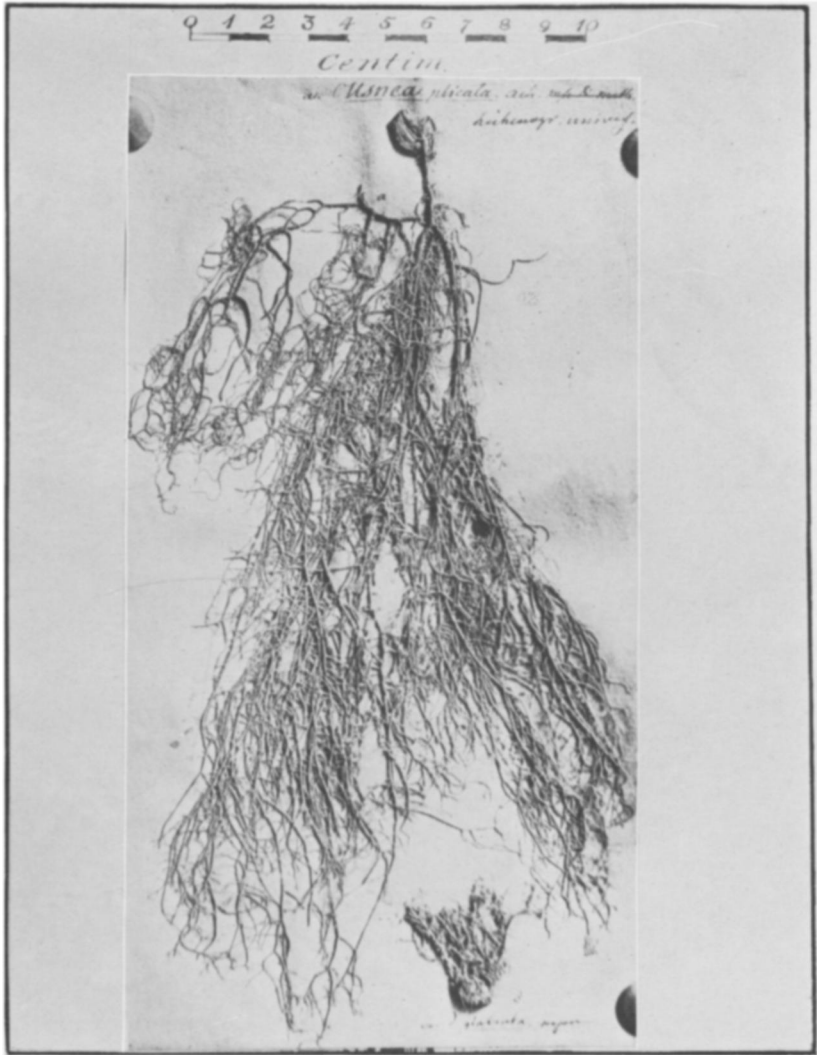
R. H. HOWE: NOMENCLATURE OF USNEA



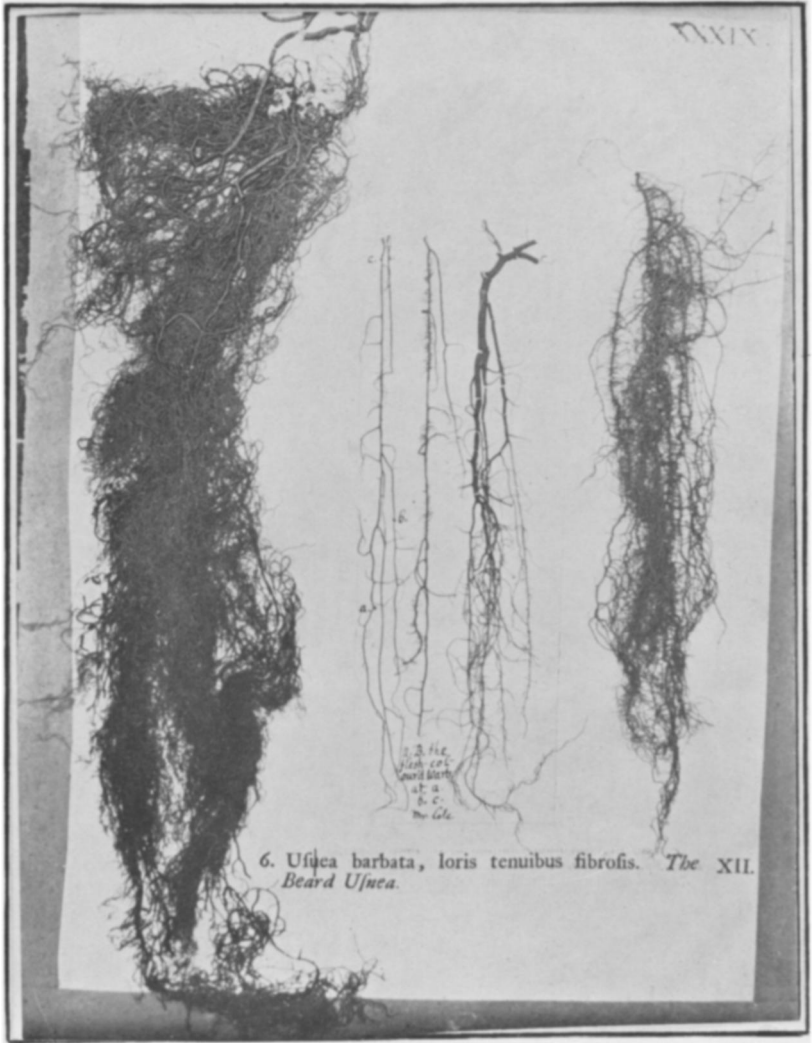
R. H. HOWE: NOMENCLATURE OF USNEA



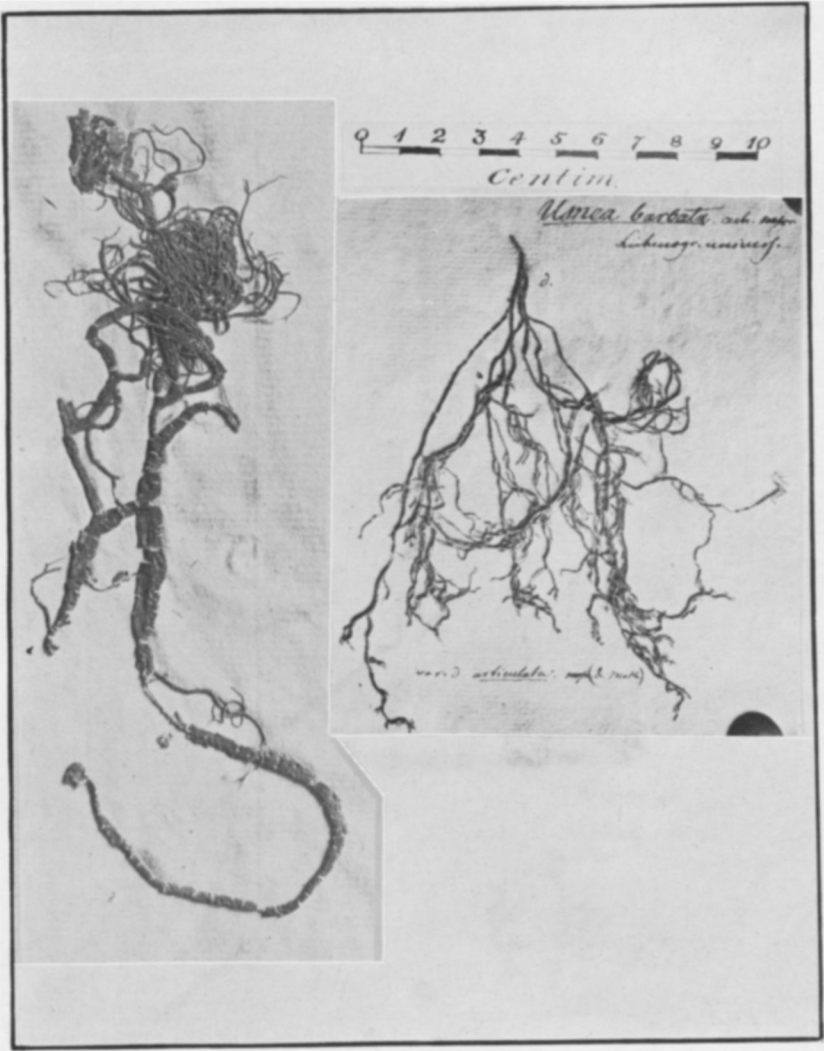
R. H. HOWE: NOMENCLATURE OF USNEA



R. H. HOWE: NOMENCLATURE OF USNEA



R. H. HOWE: NOMENCLATURE OF USNEA



R. H. HOWE: NOMENCLATURE OF USNEA

PLATE 13

The Dillenian types of *Usnea barbata*, etc. (reduced one half).

PLATE 14

LEFT-HAND FIGURE. The Linnean specimen of *Lichen barbatus* in the Linnean herbarium (slightly reduced). This specimen has little claim to be considered a type because of its acquisition twenty-two years after the species was originally described.

RIGHT-HAND FIGURE. The Acharian material of *Usnea barbata*, var. *articulata* (L.) Ach., in the Linnean Society herbarium (reduced one half).